

Remarks

Claims 2, 3 and 5-33 are now pending in this application. Applicants have amended claim 32 and presented new claim 33 to clarify the present invention and amended the dependencies of claims 2, 3, 10, 11, 13-19, 21, 31, and 32. Applicants respectfully request favorable reconsideration of this application.

The finality of the office action is improper. As recognized by the Examiner, Applicants properly filed the Request For Continued Examination (RCE). A first office action immediately subsequent to the filing of an RCE may be made final only if the conditions set forth in MPEP § 706.07(b) for making a first action final in a continuing application are met. These conditions include that the all claims of the new application are drawn to the same invention as in the earlier application. In this application, Applicants submitted a preliminary amendment with the RCE amending claim 1 and presenting new claim 32. Therefore, all of the claims were not directed to the same invention as in the earlier application and the finality of the office action is improper. Accordingly, Applicants respectfully request withdrawal of the finality of the office action.

The Examiner rejected claim 32 under 35 U.S.C. § 112, second paragraph. Applicants have amended claim 32 to recite that the mixture is transferred, without drying in an intermediate step, from the mechanical working to an oven to complete the reaction between the cellulose and urea. This is described in the specification at page 4, line 2; page 7, line 37, through page 8, line 2; page 15, line 11, among other passages. Applicants submit that claim 12 complies with 35 U.S.C. § 112, second paragraph and respectfully requests withdrawal of this rejection.

The Examiner rejected claims 1-3 and 5-32 under 35 U.S.C. § 103(a) as being unpatentable over EP 402 606 to Rahman et al. in view of U.S. patent 2,134,825 to Hill et al.

The combination of Rahman et al. and Hill does not suggest the present invention as recited in claim 33 since, among other things, neither Rahman et al. nor Hill suggests subjecting a mixture including cellulose, a liquid, auxiliary agent, and urea, where the liquid content in the mixture is less than 40 % to mechanical working. Rahman et al. does not suggest a liquid content under 40 % in those phases of the process where the mixture is agitated for thoroughly contacting cellulose with the auxiliary agent and urea. Rather, Rahman et al. suggests process phases, which might be considered similar to carry out the contact among mixture components, where the mixture exists as a slurry. Rahman et al. describes this at col. 9, lines 11-13, for example. Every example of Rahman et al. suggests stirring or agitating phases where the urea-containing mixture is slurry. If such phases were considered to correspond to the phase of mechanical working of a mixture according to the present invention, they are being carried out on a mixture having a totally different consistency than the present invention as recited in claim 33, which includes less than 40 % liquid content. With a slurry as suggested by Rahman et al., it is impossible to obtain the advantageous effects described in the present application at page 3, line 35, through page 4, line 2. A slurry as suggested by Rahman et al. is not in a physical entity that could be compressed, rubbed and stretched a plurality of times.

Rahman et al. suggests a mixture having a low liquid content only when the mixture is in a static state. That is, Rahman et al. only suggests a mixture having a low liquid content in

situations where excess liquid has been drained off or pressed out and the mixture is left to stand, possibly under the influence of heat. While in that state, the mixture is not compressed, rubbed and stretched several times. There is no teaching, suggestion or motivation to replace a conventional stirring or agitating phase of a high liquid content slurry with a mechanical working phase of a mixture having a liquid content of less than 40 % in a part of a process where excess liquid has been removed. The removal of excess liquid typically means the termination of the stirring or agitation phase for contacting the cellulose and an auxiliary agent and urea. The liquid content as defined in claim 1 is important in the sense that, as contrasted with known processes, it brings about the possibility of mechanical working of the mixture in such a consistency that the phenomena described on page 3, line 35, through page 4, line 2, are possible simultaneously.

Furthermore, Rahman et al. suggests a three-phase process that includes an initial step of contacting the cellulose with a sodium hydroxide/urea solution at low temperature, a second step of washing by a urea solution, and a final step of oven treatment at high temperature. Both the initial and second steps are performed when the mixture is slurry. The three-phase process is shown in the examples I to V and VII of Rahman et al. In example VI, the washing step is omitted. In Rahman et al., it is practically impossible to get a liquid content of lower than 40 % mechanically, such as through pressing, filtering or other processes.

On the other hand, according to the present invention as recited in newly presented independent claim 33 the processing takes place in a single step, at low liquid content, and under mechanical working of the low liquid content mixture. In other words, there are not initial and

second phases suggested by Rahman et al. According to the present invention as recited in claim 33, the absorption of the auxiliary agent and urea to the cellulose and at least partly the reaction is caused by the mechanical working, not low temperature.

Furthermore, the definition "at least partly performing reaction between the cellulose and urea" is important, since in Rahman et al. the reaction takes place only in an oven. The role of mechanical working, on the other hand, is emphasized in the present application, such as at the paragraph bridging pages 3 and 4; page 4, lines 11 to 13; and page 4, lines 33 to 37.

Hill et al. does not overcome the above-discussed deficiencies of Rahman et al. For example, Hill et al. does not suggest mechanical working of the mixture. Rather, as described at page 2, right hand column, lines 39 to 42, Hill et al. suggests passing the sheeted cellulose through squeeze rolls which press out the excess steeping liquor. This does not suggest mechanical working of the mixture. At the stage where the cellulose is sheeted, the solid components of the mixture exist in the static condition. They are not in a condition where they can be subjected to continuous kneading action or the like as represented by compressing, rubbing and stretching the mixture a plurality of times. First, the cellulose is in sheeted form. Being in sheet form means that the fibers have limited movement with respect to each other. When the sheeted cellulose is passed between the squeeze rolls, it is a once through operation where the fibers only move instantaneously closer to each other while the excess liquid escapes. No phenomena such described at page 3, line 35, through page 4, line 2, of the present application can occur simultaneously because this is mechanical dewatering in one step rather than continuous working. Thus, the procedure of Hill et al. is not to be confused with the

working by running the mixture between a nip of two rolls in the present invention, such as shown in Fig. 2, because the fibers are subjected to working repeatedly in this embodiment of the present invention.

In view of the above, the references relied upon in the office action, whether considered alone or in combination, do not suggest patentable features of the present invention. Therefore, the references relied upon in the office action, whether considered alone or in combination, do not make the present invention obvious. Accordingly, Applicants submit that the present invention is patentable over the cited references and respectfully request withdrawal of the rejection based on the cited references.

If an interview would advance the prosecution of this application, Applicants respectfully urge the Examiner to contact the undersigned at the telephone number listed below.

The undersigned authorizes the Commissioner to charge fee insufficiency and credit overpayment associated with this communication to Deposit Account No. 22-0261.

Respectfully submitted,

Date: _____

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